### Regulatory Approaches to Unconventional Gas

#### LIMITING AIR EMISSION & PROTECTING ENVIRONMENT

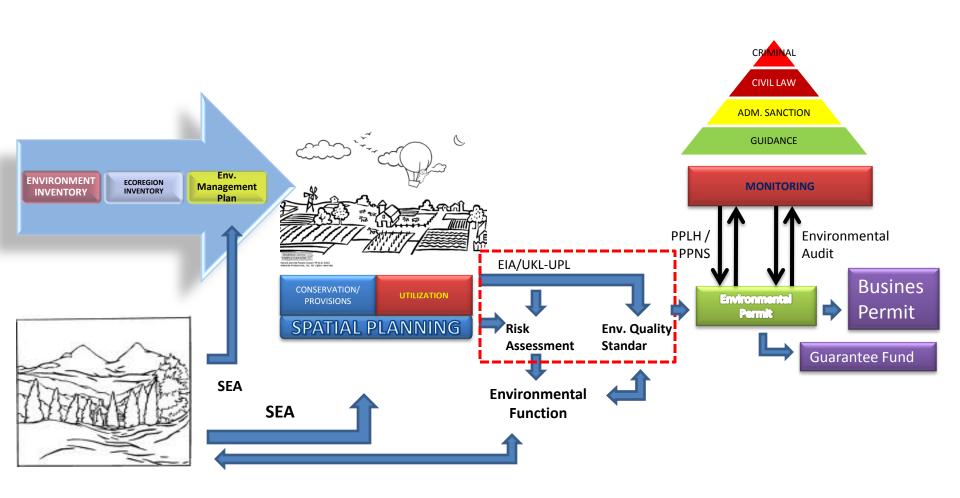
Sigit Reliantoro

Deputy Assisstant for Pollution Control – Mining, Energy & Oil Gas Industry

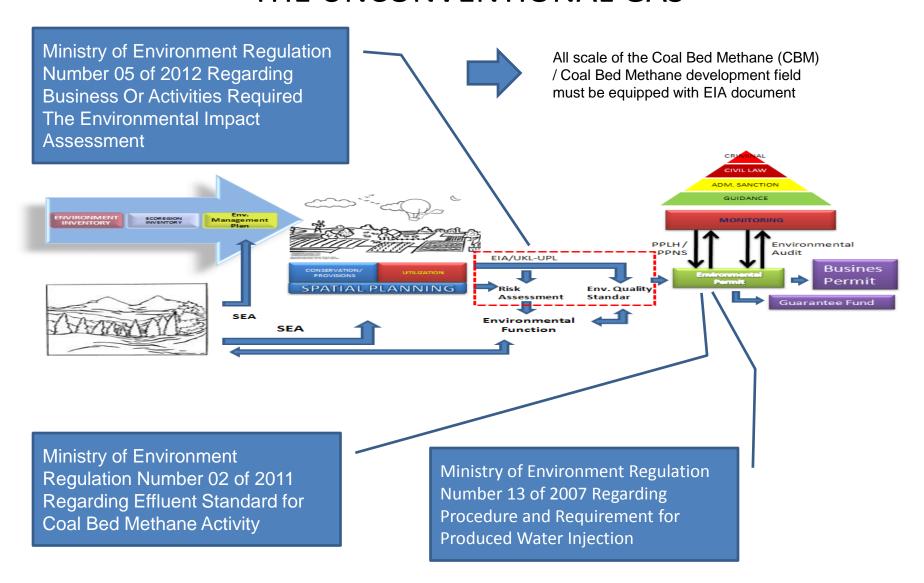
Ministry of Environment

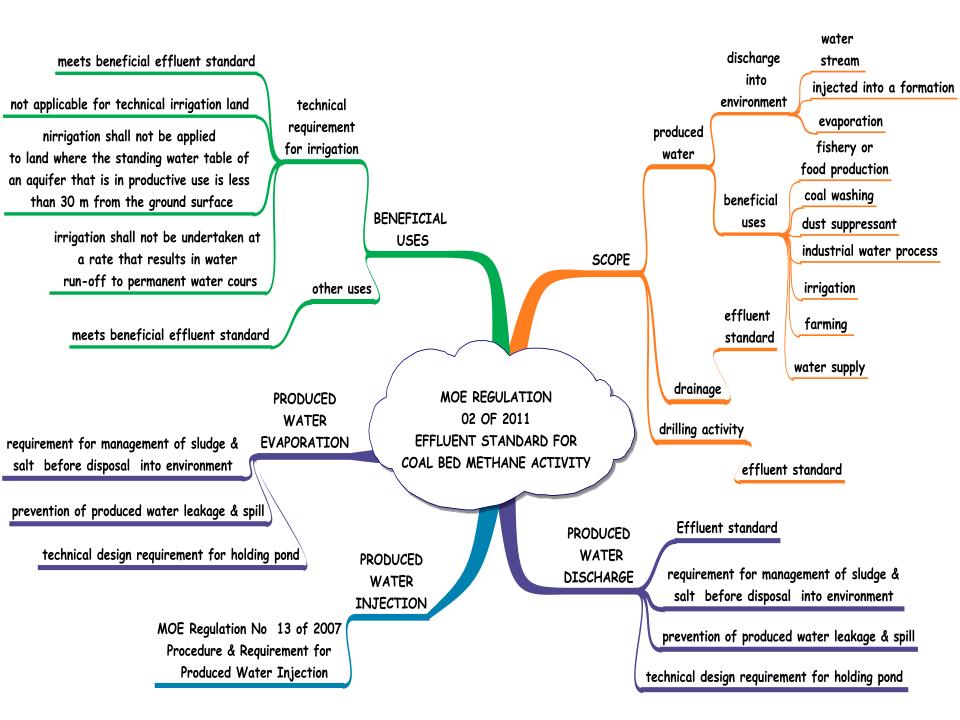
Regional Workshop on the Changing Global Gas Market and Unconventional Gas Jakarta, May 6-8, 2013

# ENVIRONMENTAL PROTECTION AND MANAGEMENT'S TOOLS



## EXISTING ENVIRONMENTAL REGULATIONS GOVERNING THE UNCONVENTIONAL GAS





### Air Pollution Issues

Draft for MoE
Regulation regarding
Emission Standard for
Heavy Vehicles

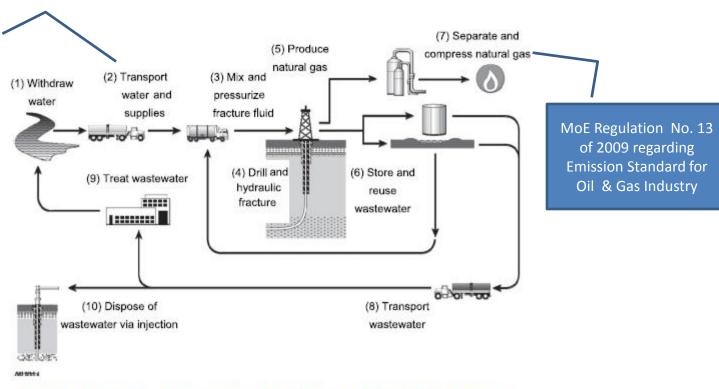


Figure 1. Major activities of shale gas extraction using horizontal drilling and hydraulic fracturing.

Sources: Aviva Litovitz et.all, Estimation of regional air quality damages from Marcellus Shale Natural ga extraction in Pennyslvania, Evnvironmental Research Letters. <a href="http://iopscience.iop.org/1748-9326/8/1/014017/article">http://iopscience.iop.org/1748-9326/8/1/014017/article</a>

## Thank You